

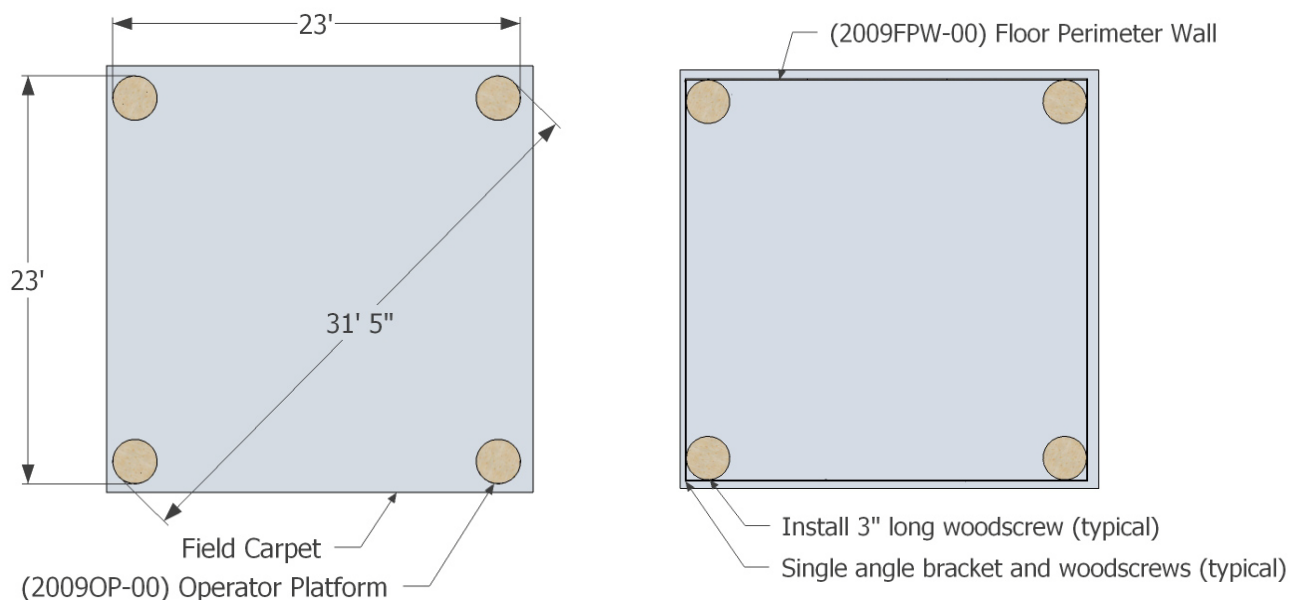
## Drawing No. 2009Top-10 Rev 0.0

### Floor Assembly Instructions

(drawn by: Brazos BEST)

Step 1. Position 24'x24' field carpet as desired for the venue. Run the required wiring from the center of the carpet to perimeter of field, as indicated in drawing 2009WR-00, under the carpet. Required wiring includes two 2-conductor wires to each processing cell, field power, and USB cable for scoring computer. Tape carpet seams as necessary to prevent interference with robot movement.

Step 2. Locate operator platforms near the corners of the carpet area dimensioned as shown below. Measurements shown are from outside edge to outside edge. Verify that both diagonals are approximately the same length. Before continuing, you may now want to tape off the square section of the operator box which is under the operator platform as shown in step 10.

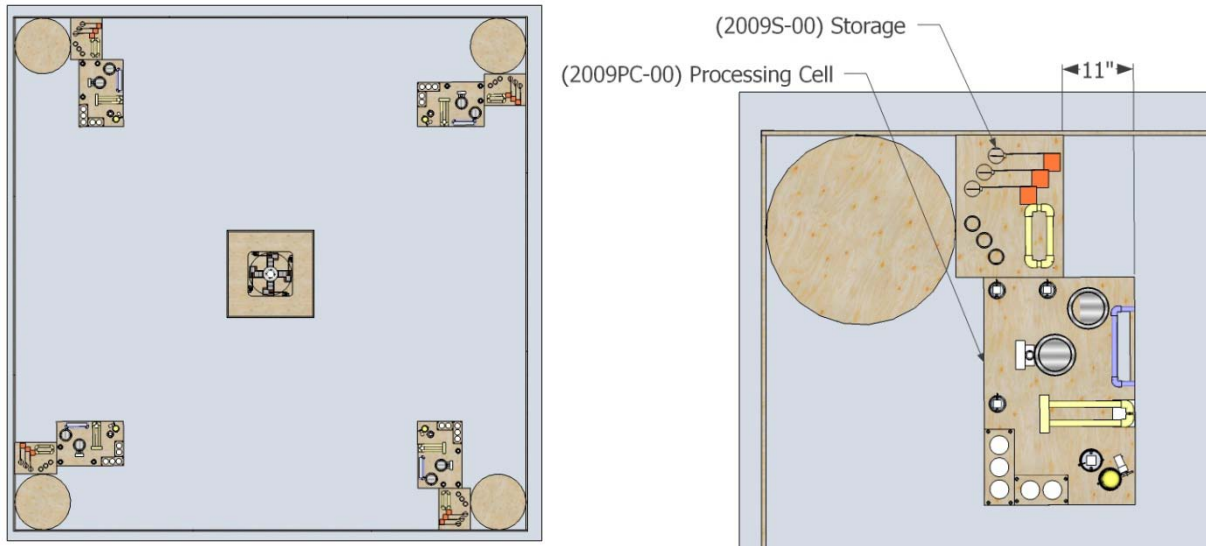


Step 3. Position each leg of the field perimeter against the outside edges of the operator platforms. Secure the legs of the perimeter to each other using their angle brackets and woodscrews. Rotate each operator platforms such that both tape markers contact the field perimeter (the tape markers indicate where screws can engage the internal framing of the operator platform). Install 3" long wood screws through the perimeter wall and into the operator platforms at each tape-marker location.

Step 4. Verify the squareness of the assembly by verifying the diagonals are approximately equal. Mark each of the diagonals on the carpet using tape so that the Energy Generating Station can be easily positioned (the EGS located by aligning its corners with the field diagonals). Position the EGS in the

center of the field. Run wires through the hole in the base and into the platform deck. Ensure that there is sufficient wire to make all connections (approximately 3'). Then pull opposite end to appropriate positions around perimeter of field as needed. Processing cell wires will be pulled over the edge of the carpet and run under the processing plant.

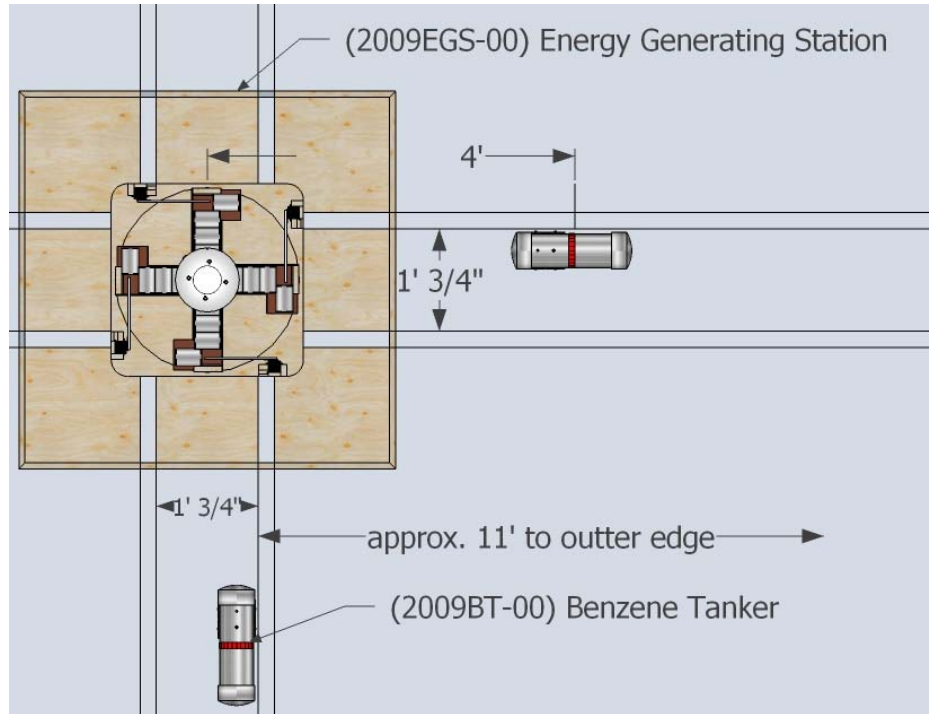
Step 5. Position the storage units as shown, abutting the operator platform and the perimeter wall and on top of the processing cell wires. Secure each with a 2" woodscrew through the field perimeter wall and into the storage unit. Do NOT penetrate the walls of the Benzene Tanker bays. Ideally, the screw should penetrate the internal bracing of the storage unit.



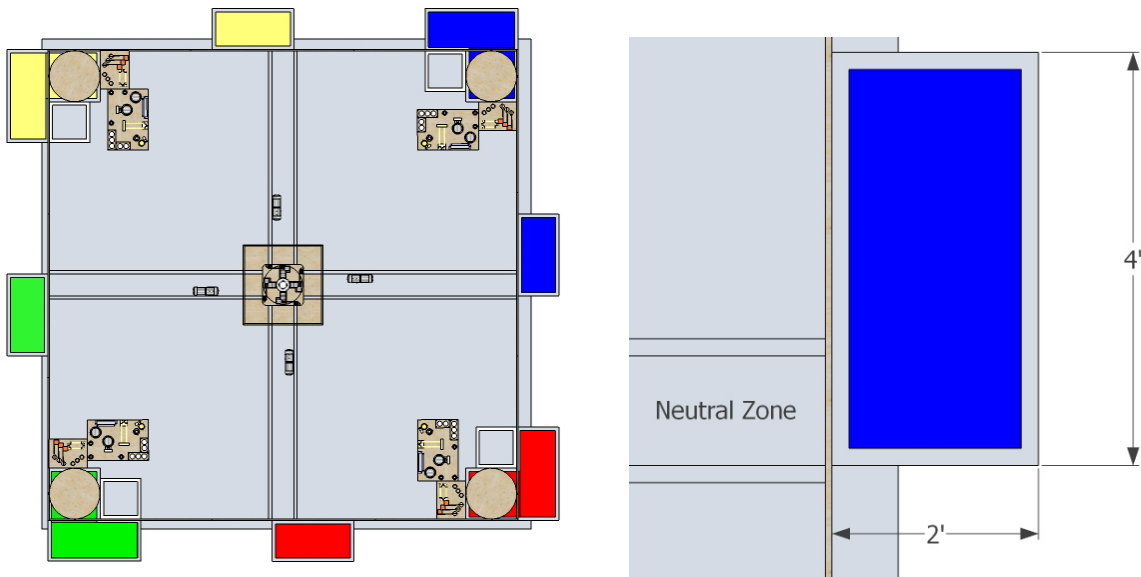
Step 6. Position the processing cells as shown, abutting the Storage unit and approximately 11" forward of the Storage front. Secure to the Storage using an angle bracket and  $\frac{3}{4}$ " woodscrews. Do NOT penetrate the walls of the Benzene Tanker bays. Additionally, place two washers under each screw to prevent them passing through the processing cell base and possible damaging the floor.

Step 7. Run the processing cell wires underneath the cell and connect the Catalyst dispenser motor and pushbutton. Exposed wires should be completely covered with tape. Optionally, a  $\frac{3}{8}$ " hole can be drilled near the base of Catalyst dispenser through which the wires can be run.

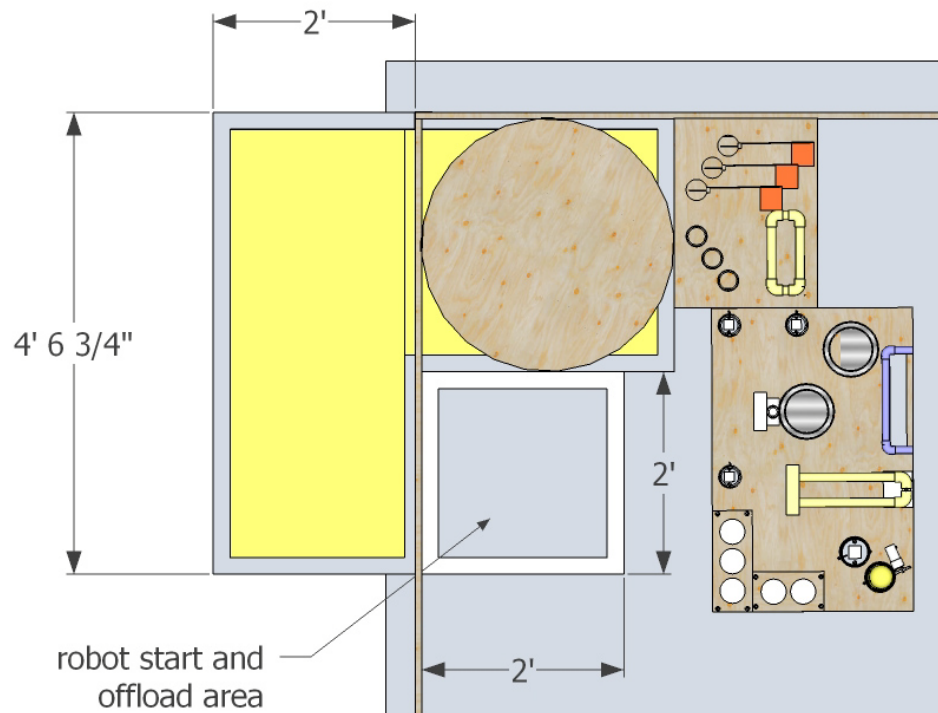
Step 8. Indicate the neutral zones with 2" wide gaffer tape. The boundaries of the neutral zone are approximately 11' from the outside edge of the nearest field perimeter wall segment (i.e. 11' from the outside edge of the wall to the edge of the tape farthest from the wall) leaving exactly 1'-3/4" between pieces of tape. Using pen or tape, make a mark on one edge of each leg of the neutral zone approximately 4' from the field centerline. The docking tape of the Benzene Tankers will be aligned with this mark when placed.



Step 9. Using colored tape, tape off the Field Specialist box for each quadrant color. One edge is aligned with the edge of the neutral zone as shown below.

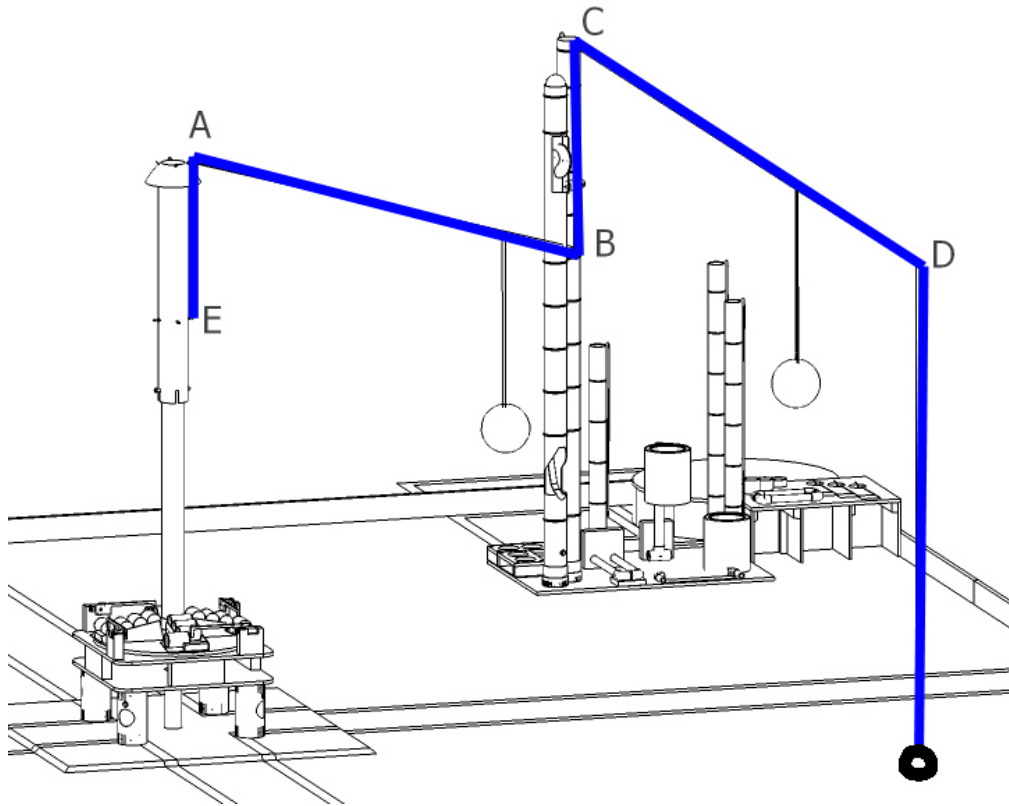


Step 10. Using colored tape, tape off the Operator box for each quadrant color. Edges are aligned with the edges of the field perimeter wall as shown. Also tape off the Robot Start and Offload area as shown.



Step 11. Take the free end of a spool of monofilament line (fishing line) and pass it through the loop at the top of one stratosphere support leg (Not the Catalyst dispenser). Run the line to the stratosphere support leg in the next processing cell. Pass it through that anchor loop at the top and continue to the next stratosphere support leg and then on to the fourth. Finally return the free end to the first stratosphere support leg to close the static line loop. Cut the line, pull the entire static line loop taught, and anchor both ends to the support leg using the wingnut anchor.

Step 12. Remove the tower from the EGS so that the hub can be easily reached without a ladder (it can be re-installed later). Run each of the four legs of the moving stratosphere line as follows...Take the free end of a spool of monofilament line (fishing line) and pass it through an eyehook in the EGS tower hub ("A" in the figure). Run the line through the lower anchor loop on the nearest stratosphere support leg (B). Proceed directly up the pole and through the anchor loop at the top of the support leg (C). Pass through the loop in the direction that minimizes the bend in the line as you proceed to the next processing cell, clockwise(D). Affix two 2" (O.D.) metal washers to the end of the line (use multiple knots and tape securely). Lower the washers into the stratosphere support leg until they touch the processing cell floor. From the spool end of the line, pull the slack from the line and secure to the EGS tower using a machine screw and wingnut anchor (E). Cut the line and follow the same procedure to run the other three legs of the moving stratosphere line. With all four legs in place and the tower re-installed on the EGS, tighten each line and re-anchor such that the washers on the terminal end are just suspended off the processing cell floor. (No, you can't see them inside the pipe. Just use your best guess.)



Step 13. Locate the point of attachment for each of the CO2 leader lines. The top of the lower ball should be 30" above the floor...this attachment point is approximately 2' from the stratosphere support leg. The elevated CO2 unit is attached approximately 5' from the next stratosphere support leg . Once the attachment point for the lower unit is identified, open the hook at the end of the leader line, hook it around the moving stratosphere line twice, then latch the hook closed. The leader line should NOT slide relative to the moving stratosphere line. When the attachment point for the elevated unit is identified, separate the static stratosphere line from the moving one and affix the leader line to the moving line as before. Before closing the hook, simply hang it on the static stratosphere line. The leader line should freely move on the static line while remaining affixed to the moving line.

Step 14. Make electrical connections according to 2009WR-00

Step 15. Test and troubleshoot according to 2009Top-70.

